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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CHEN, SHIH CHAO	

ART UNIT	PAPER NUMBER
2821	

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/988,715	IWAI ET AL.	
	Examiner	Art Unit	
	Shih-Chao Chen	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 17-24* is/are rejected.

7)☒ Claim(s) *14-16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 November 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the slot in claims 23-24 and short-circuiting connection members in claims 21-22 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on Feb. 13, 2003 (U.S. Patent No. 4,827,266 and 6,014,113) is being considered by the examiner.

Specification

3. The abstract of the disclosure is objected to because they include reference characters which are not enclosed within parentheses. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 19-24 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claims 19 and 20 fail(s) to correspond in scope with that which applicant(s) regard as the invention can be found in the reply filed November 11, 2001. In that paper, applicant has stated in the specification on page 18, lines 21-25 and page 19, lines 1-5 " The mobile radio of the present invention surely covers a plurality of frequency bands. **In the case of using several antenna together, those antennas can be so structured as to cover a plurality of frequency bands. When using an antenna capable of covering a plurality of frequency bands, a short-circuiting portion (or a supply portion) for a first frequency band, and a short-circuiting portion (or a supply portion) for a second resonant frequency band are both provided on its antenna element so that conduction for the short-circuiting portions (or voltage**

supply to the supply portions) are selectively controlled", and this statement indicates that the invention is different from what is defined in the claim(s) because claims 1 and 11 do not disclose using several antenna together or using the short-circuiting portions (the supply portions). Therefore, the built-in antenna can not resonate with at least two frequencies without give more antenna detail structures in the claims 1 and 11 and in the grawings.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-5, 10-13 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Curtis et al. (U.S. Patent No. 6,130,650).

Regarding claim 1, Curtis et al. teaches in drawing 2-4 a mobile radio having an antenna equipped for receiving and transmitting radio waves, comprising:
a base plate [108] for providing a ground level; and a built-in antenna [200] which is disposed on the base plate [108], wherein the built-in antenna is provided with a supply portion [102] at the upper end when the mobile radio is in a standing position, and is

disposed so that a space [D1, D2, D3] to the base plate [108] is decreased from the upper end to the lower end.

Regarding claim 2, Curtis et al. teaches in drawing 2-4 the mobile radio according to claim 1, wherein the built-in antenna [200] is an antenna of a planar configuration, and is so slanted that the space [D1, D2, D3] to the base plate [108] is larger at the upper end than the lower end.

Regarding claim 3, Curtis et al. teaches in drawing 2-4 the mobile radio according to claim 1 wherein the built-in antenna [200] is structured by a plurality of planes (See Fig. 2) and the plurality of planes are structured as steps so that the space [D1, D2, D3] to the base plate [108] is larger at the upper end then at the lower end.

Regarding claim 4, Curtis et al. teaches in drawing 2-4 the mobile radio according to claim 2, wherein the built-in antenna [200] is a planar inverted F antenna including an antenna element [206], a supply connection member [102] to which a predetermined voltage is supplied, and a short-circuiting connection member [204] which is grounded to the base plate [108], and the supply connection member [102] and the short-circuiting connection member [204] are disposed on the upper end.

Regarding claim 5, Curtis et al. teaches in drawing 2-4 the mobile radio according to claim 3, wherein the built-in antenna [200] is a planar inverted F antenna including an antenna element [206], a supply connection member [102] to which a predetermined voltage is supplied, and a short-circuiting connection member [204] which is grounded to the base plate [108], and the supply connection member [102] and the short-circuiting connection member [204] are disposed on the upper end.

Regarding claim 10, Curtis et al. teaches in drawing 2-4 a mobile radio having an antenna equipped for receiving and transmitting radio waves, comprising: a base plate which is structured by an antenna-housing base plate [424] and a circuit base plate [418]; and a built-in antenna [400] which is disposed on the antenna-housing base plate [424], wherein the antenna-housing base plate [424] and the circuit base plate [418] not aligned on a same plane.

Regarding claim 11, Curtis et al. teaches in drawing 2-4 the mobile radio according to claim 2, wherein the base plate is structured by an antenna-housing base plate [424] on which the built-in antenna [400] is disposed, and a circuit base plate [418] which is the rest of the base plate, and the antenna-housing base plate and the circuit base plate are not aligned on a same plane.

Regarding claim 12, Curtis et al. teaches in drawing 2-4 the mobile radio according to claim 1, wherein the base plate is structured by an antenna-housing base plate [424] on which the built-in antenna [400] is disposed, and a circuit base plate [418] which is the rest of the base plate, and the antenna-housing base plate and the circuit base plate are not aligned on a same plane.

Regarding claim 13, Curtis et al. teaches in drawing 2-4 the mobile radio according to claim 3, wherein the base plate is structured by an antenna-housing base plate [424] on which the built-in antenna [400] is disposed, and a circuit base plate [418] which is the rest of the base plate, and the antenna-housing base plate and the circuit base plate are not aligned on a same plane.

Regarding claim 17, Curtis et al. teaches in drawing 2-4 the mobile radio according to claim 1, wherein a space [D1, D2, D3] between the built-in antenna [200] and the base plate [108] is partially filled with a dielectric material (i.e. air).

Regarding claim 18, Curtis et al. teaches in drawing 2-4 the mobile radio according to claim 11, wherein a space [D1, D2, D3] between the built-in antenna [200] and the base plate [108] is partially filled with a dielectric material (i.e. air).

8. Claims 1 and 8-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Egorov (U.S. Patent No. 6,614,400).

Regarding claim 1, Egorov teaches in drawing 9-10 a mobile radio having an antenna equipped for receiving and transmitting radio waves, comprising:
a base plate [560] for providing a ground level; and a built-in antenna [500, 600] which is disposed on the base plate [560], wherein the built-in antenna is provided with a supply portion [530] at the upper end when the mobile radio is in a standing position, and is disposed so that a space (See FIG. 10) to the base plate [560] is decreased from the upper end to the lower end.

Regarding claim 8, Egorov teaches in drawing 9-10 the mobile radio according to claim 1, wherein a cabinet [450, 400] which determines the outer appearance of the mobile radio is formed in accordance with the shape of the built-in antenna [500, 600].

Regarding claim 9, Egorov teaches in drawing 9-10 the mobile radio according to claim 8, wherein the cabinet [450, 400] is structured at least by a first section [1000]

which houses the built-in antenna, and a second section (See FIG.10) which is the rest of the cabinet [450, 400], and the built-in antenna [500, 600] is previously attached to the first section [1000].

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 6-7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Curtis et al. (Cited above) in view of Sato et al. (U.S. Patent No. 4,827,266).

Curtis et al. teaches every feature of the claimed invention in paragraph 7 except for a shield is provided between the built-in antenna and the base plate; and the built-in antenna is fixed by a support base which is disposed on the shield.

Sato et al. teaches in figure 7 a shield [8, 7] is provided between the built-in antenna [1] and the base plate [2] and the built-in antenna [1] is fixed by a support base which is disposed on the shield [8, 7].

In view of the above statement, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the shield between the built-in antenna and the base plate; and the built-in antenna is fixed by a support base which is disposed on the shield as taught by Sato et al. in order to the resonance frequency of an antenna can be changed in a wide range (See Abstract).

Allowable Subject Matter

11. Claims 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose or suggest the antenna-housing base plate and the circuit base plate are electrically connected to each other via a side wall as required by claim 14.

The prior art does not disclose or suggest a slit is provided in the vicinity of a junction between the antenna-housing base plate and the circuit base plate as required by claim 15. The dependent claim is allowable for at least the above reason.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-Chao Chen whose telephone number is (571) 272-1819. The examiner can normally be reached on Monday-Friday from 7 AM to 4:30 PM, First Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shih-Chao Chen

Shih-Chao Chen
Primary Examiner
Art Unit 2821

SXC
September 30, 2004